A. G. Contract No. KR94 1069TRN
ECS File No.: 93-22
Project: RAM600-5-523/H2151 05C
Section: 202L Habitat Mitigation

AGREEMENT
BETWEEN
THE STATE OF ARIZONA
AND
THE NATURE CONSERVANCY

THIS AGREEMENT is entered into 21 July, 1994, between the STATE OF ARIZONA, acting by and through its DEPARTMENT OF TRANSPORTATION (the "State") and THE NATURE CONSERVANCY, 1815 N. Lynn St., Arlington, VA 22209, a District of Columbia non-profit corporation, acting by and through its Arizona Chapter (the "Conservancy").

I. RECITALS

1. The State is empowered by Arizona Revised Statutes Section 28-108 to enter into this agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this agreement and has delegated to the undersigned the authority to execute this agreement on behalf of the State.

2. The Conservancy is empowered by its Board of Governors to enter into this agreement and has resolved to enter into this agreement and has authorized the undersigned to execute this agreement on behalf of the Conservancy.

3. Incident to the State's construction of a portion of SR-202L (Red Mountain Freeway) a requirement of the U.S. Army Corps of Engineers (acting by authority of 33 USC 403, 1344 and 1413), 404 Permit No. 90-495-CL (the Permit) is native riparian habitat mitigation. To meet that requirement, the State and the Conservancy desire to participate in the acquisition, enhancement, management and maintenance of land suitable for native riparian habitat replacement, as outlined in Exhibit A, which is attached hereto and made a part hereof, at a cost to the State not to exceed $115,500.00, hereinafter referred to as the Project.

THEREFORE, in consideration of the mutual agreements expressed herein, it is agreed as follows:

NO. 18739
FILED WITH SECRETARY OF STATE
Date Filed 07/21/94
Richard H. Mahoney
Secretary of State
By Vicky Greenewood

II. SCOPE

1. The Conservancy will:

a. Be the lead agency for the Project, conduct all necessary studies and investigations towards determining the most appropriate site for the Project. Provide copies of all reports to the State for review and comment.

b. Acquire approximately 22 acres of appropriate real property, re-establish it as necessary as a native riparian habitat, provide stewardship, future site management and administration as required, maintain the Project, and achieve all the conditions of the Permit on behalf of the State and the Conservancy.

c. Invoice the State for its share of the Project, in an amount not to exceed $115,500.00.

d. Be responsible for any and all costs of the Project over and above the State's share of $115,500.00.

2. The State will:

a. Review the studies and provide comments as appropriate.

b. Within thirty (30) days after receipt and approval of an invoice, pay the Conservancy $115,500.00 as the State's share of the Project.

III. MISCELLANEOUS PROVISIONS

1. The Conservancy will manage property acquired as a result of this agreement consistent with the management of all its preserve land holdings. This includes sale or other transfer to qualified conservation management agencies, provided that any proceeds from such sale or transfer will be applied to conservation/mitigation projects consistent with the purposes of this agreement and the mitigation proposal.

2. This agreement shall remain in force and effect until completion of said Project; provided, however, that this agreement, except any provisions herein for maintenance, which shall be perpetual, may be cancelled at any time prior to the Conservancy's commencement of performance under this contract, upon thirty (30) days written notice to the other party.

3. This agreement shall become effective upon filing with the Secretary of State.

4. This agreement may be cancelled in accordance with Arizona Revised Statutes Section 38-511.

5. The provisions of Arizona Revised Statutes Section 35-214 are applicable to this contract.

6. In the event of any controversy which may arise out of this agreement, the parties hereto agree to abide by required arbitration as is set forth for public works contracts in Arizona Revised Statutes Section 12-1518.

7. All notices or demands upon any party to this agreement shall be in writing and shall be delivered in person or sent by mail addressed as follows:

Arizona Department of Transportation
Joint Project Administration
205 South 17 Avenue, Mail Drop 616E
Phoenix, AZ 85007

The Nature Conservancy
State Director
300 E. University #230
Tucson, AZ 85705

(and)

The Nature Conservancy
West Regional Attorney
2060 Broadway #230
Boulder, CO 80302

8. Attached hereto and incorporated herein is the written determination of each party's legal counsel that the parties are authorized under the laws of this state to enter into this agreement and that the agreement is in proper form.

IN WITNESS WHEREOF, the parties have executed this agreement the day and year first above written.

THE NATURE CONSERVANCY

By Dan K Campbell
DAN K. CAMPBELL
State Director

STATE OF ARIZONA
Department of Transportation

By Robert P. Mickelson
ROBERT P. MICKELSON
Chief Deputy State Engineer

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JPA 93-22

RESOLUTION

BE IT RESOLVED on this 7th day of June 1994, that I, the undersigned LARRY S. BONINE, as Director of the Arizona Department of Transportation, have determined that it is in the best interests of the State of Arizona that the Department of Transportation, acting by and through the Highways Division, to enter into an agreement with The Nature Conservancy for the purpose of defining responsibilities for the design and construction of improvements for native riparian habitat to comply with the requirements of the US Army Corps of Engineers 404 permit as a result of the construction of SR-202L over the Salt River.

Therefore, authorization is hereby granted to draft said agreement which, upon completion, shall be submitted to the Chief Deputy State Engineer for approval and execution.

for: Gary K. Robinson
LARRY S. BONINE
Director

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APPROVAL OF THE NATURE CONSERVANCY ATTORNEY

I have reviewed the above referenced proposed agreement between the ARIZONA DEPARTMENT OF TRANSPORTATION and the NATURE CONSERVANCY and declare this agreement to be in proper form and within the powers and authority granted to the Conservancy under the laws of the State of Arizona.

DATED this 22nd day of June, 1994.

By Andrew S. Hamamo
Western Regional Counsel

THE NATURE CONSERVANCY

ADOT MITIGATION PROPOSAL

The Nature Conservancy proposes to conduct a habitat mitigation project on behalf of the Arizona Department of Transportation in accordance with permit requirements set down by the U.S. Army Corps of Engineers and various environmental review agencies. The essence of the project is to acquire property supporting or having the potential to support riparian habitat or to intensively manage existing Conservancy owned and/or managed property with the intent of reestablishing native riparian habitat.

Locations in the Hassayampa River and the San Pedro River have been selected where it is believed this objective can be achieved in an efficient and economic manner. These sites will involve acquisition of lands that would be placed in conservation management. A site at the Conservancy managed Bingham Cienega Natural Preserve near Redington involves the restoration of approximately 25 acres of old fields to riparian mesquite bosque.

Conservancy staff concur that the most advantageous site for the project is on the Hassayampa River near the Conservancy's Hassayampa River Preserve. However, if it is not possible to conduct the project there because of lack of willing sellers of appropriate lands then the Conservancy will conduct the project at one of the alternative locations. Thus there is assurance the project will go forward in a timely fashion.

Although there is some variation in the projected costs among the sites the Conservancy offers to conduct the project for a total cost of $115,500 plus an overhead charge of 20%.

ACQUISITION ALTERNATIVES

Hassayampa River Site

Purchase and manage for passive restoration at least 22 acres of riparian habitat. Passive restoration is especially appropriate in the Hassayampa System at this time due to the effects of the recent flooding on tracts potentially available for mitigation purposes. In effect a natural seed bed has been prepared and our experience in this river is that there will be a fairly rapid resurgence of desirable species if there is no interference from humans or domestic animals to prevent their reestablishment. The attached map (Appendix A) delineates the riparian area and depicts tax parcels that would be considered by this project.

San Pedro River Site

Purchase and manage at least 22 acres of riparian habitat at sites where such a project would be congruent with other conservation agency projects. Opportunities exist in sections of the San Pedro River at Dudleyville-Cooks Lake, San Manuel-Mammoth, Bingham Cienega, and Cascabel. These sites are delineated on the attached map in Appendix B. As at the Hassayampa River site the gain in habitat value would be obtained in large part from passive management of the site. Removal of pressure from humans and domesticated animals as well as suppression of exotic species is expected to result in considerable improvement of riparian habitats at the acquired sites.

Projected Project Costs

Land costs not to exceed	$66,000
Acquisition expenses not to exceed (Includes environmental hazards assessment(EHA), appraisals, surveys, title work and closing costs)	$10,000
Start up costs for management (Includes cost of fencing, monitoring and exotic plant suppression as necessary)	$23,000
Stewardship Endowment *	$16,500
Overhead @ 20%	$23,100
Total	$138,600

MANAGEMENT ALTERNATIVE

Bingham Cienega Site

Restore mesquite bosque on approximately 25 acres currently in the ownership of Pima County Flood Control District (District) and managed by The Nature Conservancy since 1989 under the management agreement attached as Appendix C. The past use of the property was as an irrigated agricultural field and pasture. The property is currently managed as a riparian natural area preserve with the intent of supplying mitigation credits for as yet undetermined District flood control projects. The District agrees however, that restoration of the old fields to native habitat is paramount and has no objection to the use of the site to satisfy ADOT mitigation

requirements. The ecological/restoration management goals are outlined in Part 3.1.C. of the Bingham Cienega Natural Preserve Management Plan (Appendix D).

The project proposes a blend of active and passive restoration techniques. The acreage would be planted with mesquite seeds and seedlings and then irrigated for a period of at least three years to ensure survival of an adequate density of trees to create a bosque type habitat within a reasonable time frame. Experiences in other projects indicates that a 70 percent canopy cover could be expected in approximately 10 years.

The project area would be monitored by Conservancy staff and additional plantings made if necessary to accomplish the mitigation requirement.

Projected Project Costs

Planting and irrigation	$5,000 per acre	$100,000
Stewardship endowment *		$15,500
Overhead @ 20% on		$23,100
Total		$138,600

* The stewardship endowment is designed to provide for long term routine stewardship needs of properties such as site patrol, fence and sign maintenance and other costs that relate to the management of preserve properties. See Appendix E for information on the Conservancy's endowments, their management and performance.

PART THREE: MAJOR MANAGEMENT GOALS

The first two parts of the Management Plan have emphasized the historical and legal context in which Bingham Cienega Natural Preserve was established, and policies and protocols that derive from that background. In this section major management goals are identified in an effort to integrate the administrative direction described in the preceding sections with actual site management of the Preserve.

Three major management goals are presented for the Bingham Cienega Natural Preserve: Ecological, Preserve Use, and Operational. Goals are stated in idealistic terms, with the understanding that we will attempt to accomplish them within existing constraints including available human and financial resources.

Following each major management goal, is a list of more specific objectives. Part Four of the Management Plan focuses on these objectives and actions to achieve them.

3.1 ECOLOGICAL MANAGEMENT GOAL

To restore and maintain conditions so that the dynamic relationships between native species, natural communities, and ecological processes at Bingham Cienega are as they would be had human disruptions not occurred. Where choices must be made between favoring one habitat type or another, priority will be given to those species and natural communities which are rarest and most imperiled on a global scale. (Note: the Management Agreement states that the property is to be managed to protect, preserve, and enhance its riparian and aquatic habitat and other natural values.)

This includes the following Objectives:

3.1-A Inventory the biological and physical features of the Preserve to characterize baseline conditions and provide information for planning. Specifically:

* Collect all available inventory data for Bingham Cienega. Files in the Arizona Game & Fish Department's Non-Game Data Management System and other sources should be compiled as a first step in the preserve inventory process.

* Obtain copies of old and recent aerial photos of Bingham Cienega. Some old aerial photos go back to the 1930s and can help document land use changes in the past few decades. Recent photos are helpful as planning tools and to document baseline conditions.

3.1-A Ecological Management Objective: Inventory, continued

* Conduct additional inventory; map and describe baseline conditions for the species and natural features of the Preserve. This includes, in approximate priority order, the plant communities, hydrology (surface and groundwater) features, fish and other introduced (non-indigenous) animals associated with wetlands (bull frogs, crayfish), terrestrial introduced (non-indigenous) plants, soils, state rare and sensitive species, other flora and fauna species (birds, reptiles and amphibians, mammals, vascular plants).

3.1-B Conduct research on biological and ecological systems on the Preserve as needed to accomplish the Ecological Goal. Conduct monitoring to assess progress toward this goal. Specifically:

* Conduct literature and other information reviews. Before beginning research, an information review assures that managers have access to the best and most current available information on how to maintain and restore the species, communities, and ecological processes at Bingham Cienega.

* Produce a Research and Ecological Monitoring Plan. Identify the specific research projects most critical to achieving the Ecological Goal, and identify ecological monitoring most useful to assessing progress toward the Ecological Goal. A preliminary assessment of research needs includes:

  1) pollen analysis and other suitable studies elucidating historical changes at Bingham Cienega and the natural role of fire;
  2) examination of the original land survey records in the State BLM office to reveal past biological communities at the time of early white settlement of Bingham Cienega;
  3) studies of recent land use history (primarily oral history) and consequent alterations of the landscape and hydrology to better understand the role of human disturbance at Bingham Cienega;
  4) studies to attempt to locate the source of water in the Bingham Cienega Spring and the hydrological contributions to Bingham Cienega from the San Pedro River;
  5) studies of competition between native and introduced species colonizing old fields;
  6) studies to core trees in or near Bingham spring to examine their ages and period of growth, to better understand hydrological fluctuations in the spring.

3.1-B Ecological Management Objective: Research, continued

* Produce a conceptual ecological model of the interrelationships between species, natural communities, and ecological process (including hydrology) at Bingham Cienega.

  A conceptual ecological model explicitly records the working assumptions managers have about systems on a preserve. This process helps transfer information between different managers, and is used to guide plans for research, ecological monitoring and management.

* Implement highest priority research and ecological monitoring. Funds will be expended on high priority research and monitoring, as identified in the Research and Ecological Monitoring Plan.

* Monitor the conservation easement.

3.1-C Conduct ecological management and restore habitat to accomplish the Ecological Goal. Specifically:

* Produce and implement specific Restoration and Ecological Management Plans, describing ways to maintain and restore the natural communities, native species and ecological processes at Bingham Cienega, and techniques to monitor the achievement of management objectives. Include:
  1) Restoration of old fields;
  2) Control of introduced (non-indigenous) species;
  3) Restoration of natural hydrological processes;
  4) Restoration of a native fishery;
  5) Reestablishment of fire as a natural ecological process;
  6) Restoration of understory composition in plant communities;
  7) Maintenance of the water supply from Bingham Spring and the San Pedro within the natural range of variability.

* Produce a Pre-suppression Fire Plan. A plan on how to respond to a wildland fire on the Preserve can reduce impacts from fire suppression and other threats of wildfire.

* Reestablish natural ecological processes, including fire and hydrology. As prescribed in specific plans, prescribed fire will be used to simulate a natural fire regime. All prescribed fire plans would be approved by responsible authorities and address standard safety and logistical concerns to assure positive results.

3.1-C Ecological Management Objective: Restoration, continued

Also as advised in specific plans, recent landscape alterations will be modified to reestablish natural hydrological features on the Preserve. Landscape alterations include dams or dikes, ditches, and other features associated with past irrigation systems. Before any such alterations are made, plans must be approved by the Planning Division contact, to assure that modifications do not create additional flood hazards to the Kelly property. A clearance must be obtained from the County Archaeologist before any alteration of landscape features.

* Reestablish species apparently lost to Bingham Cienega. The highest priorities, and only candidates for reestablishment at this time, are Gila topminnow (Poeciliopsis occidentalis) and desert pupfish (Cyprinodon macularius). Steps involved in a reintroduction project include documentation of historic occurrence and plans for control of the exotic mosquitofish (Gambusia affinis).

3.1-D Determine additional land and water protection needs to ensure the long-term viability of Bingham Cienega.

* Revise the Preserve Design. A Preserve Design, also known as a Site Design, consists of maps and supporting materials showing the core and buffer areas needing protection to accomplish management goals on a preserve. A Preserve design may identify additional lands recommended for acquisition or protection through conservation easement or local land use planning.

* Review water rights and take steps to legally protect water. This includes monitoring status of water rights in the San Pedro River portion of the General Adjudication of the Gila River System and Source and recommending appropriate actions to Pima County, such as filing for changes in use on existing water rights to reflect the wildlife and recreational uses of water in the Preserve.

3.1-E Manage the facilities and improvements on the Preserve to accomplish the Ecological Goal. Specifically:

* Secure the Preserve from trespass livestock grazing. Maintain, and as needed replace, perimeter fencing and fencing around the privately owned inholding.

* Remove interior fences and other refuse. Interior fences range from relatively new materials, which can be salvaged and reused, to very old fences which are intertwined with vegetation and partially down. These fences are a hazard to

3.1-E Ecological Management Objective: Facilities, continued

people and wildlife, and have no long-term function in the Preserve. (Until all perimeter fence improvements are completed, some interior fences help in gathering trespass livestock for removal.) Volunteers can do some of the fence removal, but there is a degree of hazard involved. A recommendation is to obtain the services of a local person to remove old fences on a paid basis. Other possibilities include use of County "summer crews" and/or Youth Conservation Corp workers. Additionally, there are some areas with accumulated trash that need to be cleaned up.

* Post the perimeter of the Preserve with signs that read "No Hunting, No Trespassing." Until there is an increased capability to patrol the preserve, these signs should be of a generic nature so as not to draw attention to the property.

* Use volunteer Preserve Monitors to inspect for livestock trespass and compliance with visitor use policies. A corp of volunteers has been recruited and trained for this purpose. Volunteer inspections should occur at a minimum of once per month.

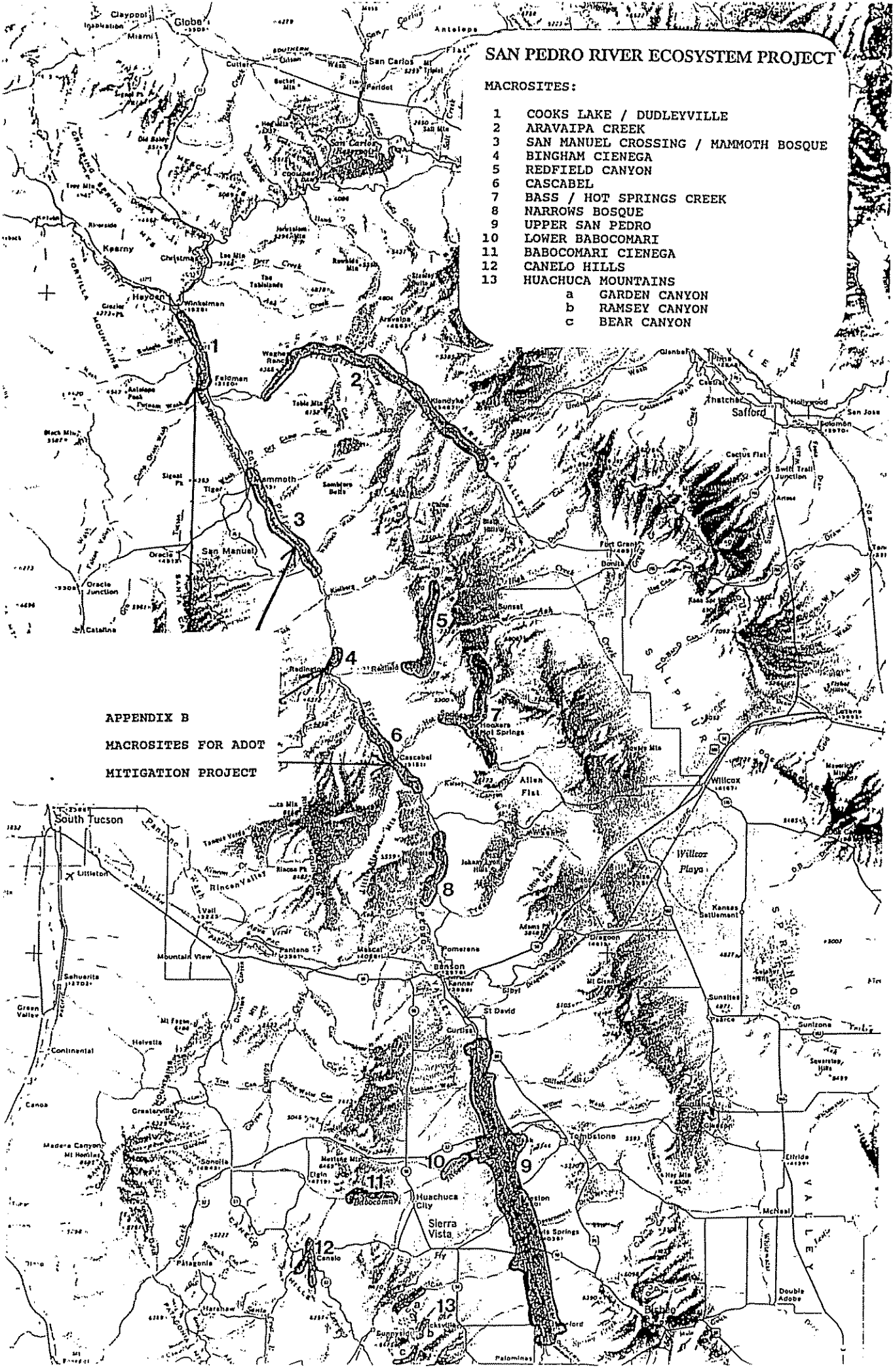
* Incorporate consideration of ecological management objectives into the Facilities and Use Plan which will be prepared under the Preserve Use Goal.

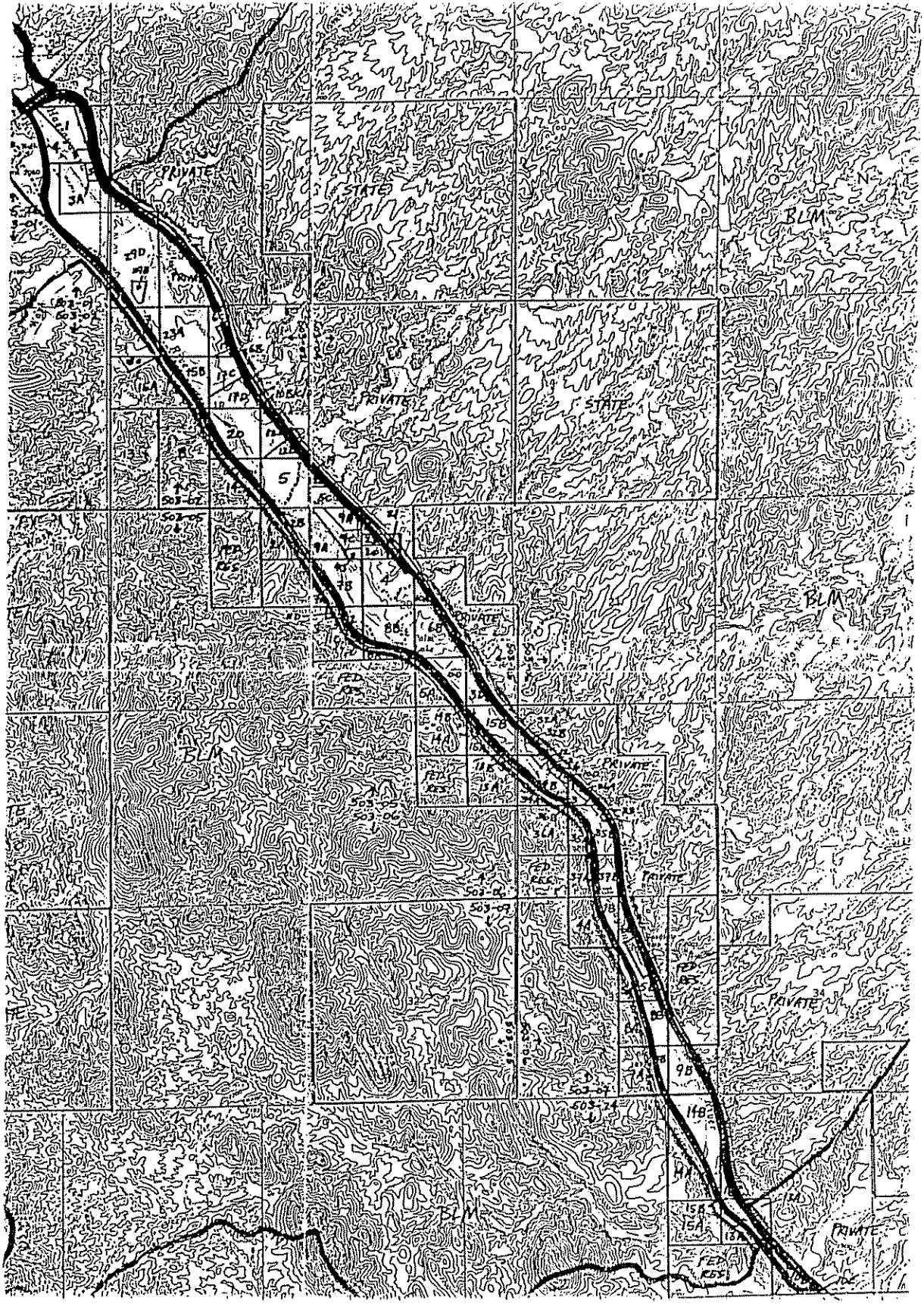
THE NATURE CONSERVANCY
HISTORICAL RETURN ANALYSIS
OF POOLED LONG-TERM EQUITY FUNDS

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	5-YEAR Average 1989-93	10-Year Average 1984-93
Standard & Poor's 500	6.1%	31.9%	18.6%	5.3%	16.6%	31.6%	-3.1%	30.5%	7.6%	10.1%	15.3%	15.5%
Pooled Funds Returns	10.3%	27.0%	12.6%	6.1%	18.1%	26.0%	1.6%	39.5%	11.3%	10.2%	17.7%	16.3%
Consumer Price Index (a measure of inflation)	-4.1%	-3.8%	-1.1%	-4.4%	-4.4%	-4.6%	-5.6%	-3.1%	-2.8%	-2.7%	-3.8%	-3.7%
Total Return less CPI	6.2%	23.2%	11.5%	1.7%	13.7%	21.4%	-4.0%	36.4%	8.5%	7.5%	13.9%	12.6%
Average Distribution	-3.0%	-3.0%	-3.0%	-4.5%	-4.5%	-4.5%	-4.5%	-4.5%	-4.5%	-4.5%	-4.5%	-4.1%
Net Real Return	3.2%	20.2%	8.5%	-2.8%	9.2%	16.9%	-8.5%	31.9%	4.0%	3.0%	9.4%	8.5%

APPENDIX E

ENDOWMENT PERFORMANCE


SAN PEDRO RIVER ECOSYSTEM PROJECT
MACROSITES:
1 COOKS LAKE / DUDLEYVILLE
2 ARAVAIPA CREEK
3 SAN MANUEL CROSSING / MAMMOTH BOSQUE
4 BINGHAM CIENEGA
5 REDFIELD CANYON
6 CASCABEL
7 BASS / HOT SPRINGS CREEK
8 NARROWS BOSQUE
9 UPPER SAN PEDRO
10 LOWER BABOCOMARI
11 BABOCOMARI CIENEGA
12 CANELO HILLS
13 HUACHUCA MOUNTAINS
a GARDEN CANYON
b RAMSEY CANYON
c BEAR CANYON
APPENDIX B
MACROSITES FOR ADOT
MITIGATION PROJECT



APPENDIX A

HASSAYAMPA RIVER TRACTS

STATE OF ARIZONA

OFFICE OF THE ATTORNEY GENERAL

GRANT WOODS
ATTORNEY GENERAL

1275 WEST WASHINGTON, PHOENIX 85007-2926

MAIN PHONE : 542-5025
TELECOPIER : 542-4085

INTERGOVERNMENTAL AGREEMENT
DETERMINATION

A. G. Contract No. KR94-1069-TRN, an agreement between public agencies, has been reviewed pursuant to A.R.S. §11-952, as amended, by the undersigned Assistant Attorney General who has determined that it is in the proper form and is within the powers and authority granted to the State of Arizona.

No opinion is expressed as to the authority of the remaining parties, other than the State or its agencies, to enter into said agreement.

DATED this 15th day of July, 1994.

GRANT WOODS
Attorney General

JAMES R. REDPATH
Assistant Attorney General
Transportation Section

JRR:lsr
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